

NUCLEAR, MEDICAL AND ENVIRONMENTAL TECHNOLOGIES

CENTER

Large companies are currently downsizing, outsourcing, and eliminating risky and costly nuclear research and development (R&D) capabilities, and are teaming with universities with established nuclear engineering programs and research facilities to perform key services. An additional market trend is for companies to off-load ownership and operation of their nuclear testing, diagnostic, and irradiation facilities, and to contract with new owners for specific access and services. Others are simply decommissioning their nuclear facilities without replacement. The result is a decrease in availability of licensed facilities. That, in combination with an increasing demand for services from the private sector, provides the basis for a solid commercial opportunity. The commercial strategy of the **Center for Nuclear, Medical, and Environmental Technology (CNMET)** is to acquire selected spun-off facilities and consolidate existing niche markets into a single, well-managed and licensed entity that can provide a convenient source for a full range of nuclear services. E-Cubed and Nuclear Labyrinth will assume commercial production to reduce costs, implement uninterrupted production cycles, and achieve economies of scale. Appropriate R&D functions then will be merged and contracted to universities with nuclear facilities, such as the University of Utah's TRIGA reactor, to promote innovation, train co-operatively, and supply a steady stream of knowledgeable and seasoned potential employees to the workforce.

UNIVERSITY OF UTAH

ACCOMPLISHMENTS

CNMET has investigated market sector definition and market research studies for medical radioisotopes (seeds); neutron, gamma, and x-ray radiography; irradiation survivability of electronic components; and plutonium (Pu)-bioassays. CNMET is currently in a position to launch a new company, called "Nuclear Labyrinth LLC," and to facilitate the growth of a second business, E-Cubed Inc. These Utah-based companies will implement contracts for the use of the University of Utah's reactor. The CENTER will perform R&D activities for these companies that will result in new IP, which subsequently can be licensed through the TTO. CNMET continues to identify other underserved clients through its targeted market research.

CNMET will graduate from the state-supported Centers of Excellence (COE) program at the end of its fiscal year's funding (June 30, 2003). Beginning July 1, 2003, after only two years, CNMET plans to be financially independent, without further need for COE resources.

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TECHNOLOGY

A newly spawned entity, Nuclear Labyrinth LLC, along with an existing Utah business, E-cubed Inc., will offer a variety of commercial nuclear production services. Both Utah-based companies plan to contract major portions of their R&D functions to the University of Utah's Center for Excellence in Nuclear Technology, Engineering, and Research (CENTER) and license back any applicable intellectual property (IP) from the Technology Transfer Office (TTO). The CENTER will provide valuable hands-on training functions for both of its partner organizations. Combined commercial missions will improve and expand nuclear services to existing and underserved clients. Operations will be conducted, via contracts, at four locations:

1) Little Mountain, Utah. E-Cubed Inc.'s activities will include introducing commercial opportunities into the Survivability and Vulnerability Integration Center located at Little Mountain, Utah. E-Cubed and Hill Air Force Base (HAFB), the owner of the Little Mountain facility, will enter into an industrial partnership in 2003. E-Cubed will be performing material diagnostics for civilian work from major commercial parts manufacturers (aerospace, automotive, energy, electronic, etc.). Non-defense work is initially estimated to be at least \$1 million/year. 2) California. A major multinational company recently retained one of its divisions that operates a nuclear reactor in California in order to consummate a recent spin-off transaction. Due to the sensitivity of the information and current negotiations, the identity and location cannot be cited here. The parent company now wants to divest itself of the material diag-

nostic activities that use a reactor, because of burdensome regulations and perceived operational risks involved in conducting operations outside their core business. The company is willing to self-finance the reactor sale to a suitable buyer over a period of three to five years. Furthermore, transfer of reserve-fund obligations and liabilities associated with decommissioning the reactor to a buyer can be achieved on advantageous terms for the buyer. E-Cubed is ideally suited to acquire the reactor facility and to assume full operational responsibilities at the current reactor's site; to convert its technology to all-digital production format; and to add related interpretative and design services (i.e., radiation detection, dosimetry, analysis etc.) to significantly increase revenues. 3) Salt Lake City, Utah. Nuclear Labyrinth will operate a computational group engaged in simulating and modeling advanced radiation technologies and related processes. This group will be active in international activities supported by government and industry. 4) University of Utah CENTER. Nuclear Labyrinth and E-Cubed plan to contract with the CENTER at the University of Utah for various research and development projects, such as the digitization of current California radiography imaging technology, the development of rapid bioassay techniques, and to enhance computer codes. The newly developed proprietary technologies then will be licensed back to the two companies via the TTO. CNMET intends to conduct targeted market research to identify other underserved clients for both Nuclear Labyrinth and E-Cubed.